56 GGG	110 TCT 	164 AAT 	218 AAA 	272 CTC	.26 CTG	380 ACT
CCG	ا ا ور	GAA	AGG 	AGC	3. GAT (	1CC
CAT	GT.T 	TAA 	TGA 	AGC	CCT	TTC
47 ACA 	101 TGT 	155 TAA	209 TCC	263 GCC	17 TGG 	371 TAT
CCA	CAG	AGT 	AGC 	CAT 	317 GTC TGG 	CIC
AGA 	ACT	AAC 	ן פפט ו	ACT	TCT	TTT 
38 CAC	92 AAC 	146 AGG	200 GCT	254 TCA	308 CAT GTG 	362 GAA
ACA 	TTA 	GTA 	AGA 	CAG	CAT	CGG
AAC 	TGA 	TGG	CAA 	TGT	TTA 	AGT
29 ACA 	83 967 1 1 1	137 AAT	191 CAA 	245 ACT 	299 TCA	353 ACA 
TGT	AGA 	ATG	TTA 	CAA 		CTG
CTT	AGC	ATA 	ACA 	GTT	ACA	CTC
20 GAG	74 TAG	128 AAA 	182 TGC	236 GCC 	290 AGC	344 ACG
AAC	TGC	TGG	CTG	GCT	CCC	GAG
GTA 	TGT	TCC	TAA 	GCC 	CTC	7CG
11 CAG	65 GTG	119 CAC	173 TGC	227 TGT	281 TGC	335 TGC
AAG	GCT	TGC	CCT	GCT	GTC	ATC
AGC	ATG 	CTG	GTG 	AGG	AGC 	TGC

### FIGURE 1A

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434 TCC	488 CTG	542 GCC 	596 ATA 	650 AAA 	704 CAA 
CTC	TGA	CAG 	AAA  K	GAG  E	AAG  K
CTC	GTC	CTC 	CTG  L	AGG  R	AAG  K
425 CCG	479 CCC	533 AGA 	587 CGT 	641 TTG 	695 ATG 
CCC	TTC	GGA  G	AAG  K	GCC 	GAG  E
TCA	TGC	AAG  K	CAG 	AAG  K	GAA В
416 CTG	470 ACT	524 GTG 	578 TCA 	632 AAA 	686 CAG 
CTT	TGG	CTG  L	ATC  I	AAG  K	GAA  E
TCT	CTT	GAG  E	GAA  E	TTG 	AAA  K
407 GCT	461 TAG	515 GCT 	569 GAA 	623 CAT 	677 GGA 
CCT	TGG	GAA  E	CAG	CAG  Q	AGC  S
CTC	TTA 	GAA  E	ATA 	CAC  H	AGC  S
398 TTT 	452 GAT	506 ATG 	560 AAA 	614 AAG  K	668 ATC 
GGA	CTT	AGA 	AGA  R	CTA  L	GGA  G
AGC	CTC	TCT	AAA  K	AAA  K	GAT  D
389 AAG 	443 AGG	497 ACT 	551 GAT 	605 GAC  D	659 CTA 
GCA	AGG	TTG	ACA 	GAA  E	CTT  L
GGT 	CCC	FCC 	ATC  I	GAG  E	TGG 

# FIGURE 1B

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758 CTT 	812 GAA 	866 ATA 	920 ATC 	974 AAG 	028 GCC 
7 AGG C 	AAG G  K		GAC A		$\vdash$
•					
CIC 	ACG	GAC  D	GAG  E	TT L	TTA 
749 ATC 	803 TCA 	857 GAA 	911 ATT 	965 AGG 	1019 GCT 
AGT 	ATC  I	ACA 	TCA	TCT  S	AAA  K
CAA  Q	CAA	ACA 	GAG  E	CCT  P	AGG  R
740 GAA 	794 CTG 	848 CGG	902 GAA  E	956 ATA 	.010 AAT 
CTA 	GAA  E	GAG  E	GCA  A	TAC 	CAA 
GTT  V	GCT  A	ATT  I	AGA  R	TCC  S	GAA  E
731 CAG 	785 AAA  K	839 TCA 	893 GAA 	947 AAG 	.001 GAT 
ATC  I	GAA  E	AAG  K	GAA 	CCA 	1 GAT  D
CAG  Q	CTT  L	CTA  L	AGA  R	CTT  L	GAA  E
722 CAC 	776 GAT 	830 AAA 	884 GAA  E	938 GAC  D	992 AAA 
CAG	CAA	AAG  K	GTG 	CCT  P	GAA  E
GAC 	ATC 	TTA  L	AAA  K	ATC  I	GAA  E
713 CAA 	767 GAG 	821 ATT 	875 GTG 	929 AAT 	983 AAT 
CAA 	AAA  K	GCC	TCT  S	GCT 	ATA  I
AAT  N	GAG  E	GAG  E	AGA  R	TAT  Y	GAG  E

# FIGURE 1C

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1082 CTG TCT		1136 TAT GAT  Y D	1190 TAC AAT  Y N	1244 GCC TCA  A S	1298 AAT CCC  N P	1352 AAC TTT  N F
GTT (		GTT :	GCA 7		GCC 7	CCA  P
1073	E	1127 AAA 	1181 AGT GCA  S A	1235 AGA  R	1289 TAT 	1343 GGA 
1 AGT 	Ø	1; ATA / 	AGT  S	CTA	GTA '	CCT
GAA 		GGA  G	CAC  H	CTT  L	CCT  P	ACC 
.064 GGA	ტ	118 ACA 	.172 AAT 	.226 GAA  E	.280 GAG 	1334 GTG 
1 ACT 	E	1118 GGT ACA  G T	1172 TCT AAT  S N	1226 GAG GAA  E E	1280 CAT GAG  H E	ACG 
AAG	×	AAA  K	AGT 			GAA  E
1055 TTG 	П	1109 GAC TTT  D F	1163 GCA GTA  A V	.217 GAA 	.271 GAG 	1325 3 AGA  R
1 GAC	Д	GAC 	GCA  A	1) GTT (	ACA 	CAG.
AAA 	×	GAT  D	TAT  Y	CCA	CCA  P	CCA
1046 GAA	田	.100 TCA 	L154 GTG 	208 GCA 	1262 TCC 	1316 A ACC
GTT 	>	1 CCA  P	1 TCA 	CTG	12 AAA 7  K	ACA  T
AAA	M	CTG  L	AAG  K	<u>р</u> , "	Ħ!	CCT
1037	н	1091 . CCT 	1145 CAA 	1199 ACC GAT  T D	1253 AAC  N	1307 AGG
1 GAA 	臼	ATA	1 GGG 	ACC 	1253 AG AGA AAC TC 5.	TAC TAC Y
ATG	Ħ	TCA 	GAT  D	)       	GAG  E	TTT  F

# FIGURE 1D

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1406 TCC 	1460 CAC 	151 GA 	1568 ; AAT 	162 GA 	1676 GAC
GAA  E	AAT 	1514 GCA GAA  A E	11CG	1622 AGA GAG  R E	GAG 
AAT  N	다 다 다	CAA  Q	GAA - Н	ССС Р	CAG  Q
397 GTA 	1451 AAC 	.505 CAA 	.559 GAA 	.613 AGC 	.667 TGT 
1 GGT 	1 AAC  N	1: ATT ( 	1 TGG . 	CTG 	ACT '
ATT  I	GGA  G	GTG 	CCT	AGG  R	С Р I С
388 GGT 	.442 AGG 	496 TCA 	1550 ; ACT	.604 CCA 	.658 TCA 
CTG 	14 3 GAA A E	1496 CGA TCA  R S	ATG 	1 AAG  K	1 TCT  S
GGA  G	GAG  E	CCC	CTA  L	CCA  P	AAT  N
.379 AAT 	.433 TCA 	.487 CAT 	.541 AGG 	.595 TCT 	.649 CAG
ACT T	1 CTT  L	14 3 CCT C  P ]	1 AAA .  K	1 CCC 	1 CAC  H
AAA  K	GGT 	GT(	CAA 	GCA  A	GAA  E
1370 ATT 	1424 AAT 	1478 ; CCA	1532 CCG 	1586 GAT 	1640 TCT 
AAG  K	96C	CCG 	ACC 	1 AAA  K	AAA  K
ATA 	ATG 	ATT  I	'AC  H	GAC  D	999   1   1
1361 . AGG 	1415 CAC AAT  H N	1469 AGT CCC 	1523 CTT	L577 CAG 	1631 TTT 
GAA  E	CAC  H	AGT	AAG  K	1577 C ATG CAG G M	ATA ATA
CAA 	ATA  I	ATC 	GAG  E	GTC 	ACA 

# FIGURE 1E

1730 GAT		,84 ;AA	! Ш !	1838 GTT		.892 TAC	! <b>&gt;</b>	CTT	ļ	2000 CCC	i L
17 AAT G		1784 AGT GAA	i i	18 CTG G		18 TCC 1		1946 A CCA C'	i i i Д	20 TCC 0	i i
	   H	GAC A		GAG C		CCG I		19 ACA C	     <b>[</b> -	AAA T	
				<u> </u>	i ''						
1721 GAC		1775 GAP	H	1829 : GCT	₫ 4	1883 7 AAA		CCA	<u>்</u> ப	1991 CAT	i H
1721 CCA GAC	<u> </u> വ	1775 GCA GAA	- 4 - 4	1 CAT	HH	18 A GAG A	   四 	1937 AAA	   14 	1991 AAT CAT	
	! Н Н	CAG		ATC	! ! ⊢⊣ !	GCA	- 4 - 4	gcc	   <b>4</b>	ACA	! ! [ <del>-</del>
1712 CTG				1820 3 ATC	 ! H			CCA	l L	82 AC	
17 TCC C		1766 TAT CAG		18 GGG 7	i i rh	1874 GGA GAA	י ו זי	.928 CAG (	! ~	19 GAA A	' ! ! [+7
								_		GZ	1 <del>1 4</del> 1
	   H	999	ן ט	GAT		GAA	   田 	TAC	>	CAT	! ! 耳 !
1703 ATC GTT	>	1757 ATG	Σ	1811 TAT	: : :	.865 GAT	l A	GTG	>	.973 CCT	! ! பூ !
1 ATC	H	17 TTC A	   [14 	18 GGA T	ן ו ט ו	18 3 GAG G	   E	919 CAG	l O	1. AGT (	ເນ !
	z	ATT	   H 	ACA	! ! [+	GAG	   田 	1 AGT		GCT	
1694 \ TAT	<u> </u> >	748 ATG	ĽΣ	802 CTG	ļ	.856 GAG	   田 	CAT	H	.964 GAA	   [13] 
1 AGA	<u> </u>	1 ACA	ļ E	1 TTT	   [±4	1 GAG	   E	1910 r ccc (	і і Д	1. TCA (	ເດີ
GTC	>				   \( \( \)		0	1 GCT	- - - -		   64 
1685 GAT	_ _ _		Г Б		   \		0	4	! ! ⊢		   14
1 GAA (	   田		   日 	-		~ _	   H	1901 CCC		Η .	   K
z b	, 1 1 1	ACA (	! [-] !	GAA (			·   >	19 CAC (	!	-	! Д

# FIGURE 1F

2054 CCT GTC		2108 CCA TCC	່ ທ	2162 TAA GAG	 	2216 TGC AAA	2270 TCA TTA	2324 AAA AAT 
CCT	<u> </u> 4	CCA	i L	TAA	   * 	TGC	227( TCA :	AAA 
AGC	ຸ່ໝ	GAT		ATC	   H	ATT 	TTA 	GTG
2045 TTA GGC	ָ ט	2099 GAG	   日 	2153 ; GTG		2207 AGA AGC 	2261 aaa aaa 	2315 TTA TTT 
TTA	   1	2099 ACT GAG		2153 AAG GTG	i M	AGA	2261 AAA A 	
AGC	ຸ່ໝ	පිපිපි	ן טו	AAA	i M	CTA	TCC	TCA
2036 GAA	   団 	2090 GAT	Ω	2144 CTG GGA	ט ו	2198 AAA 	2252 CTG AAG	2306 TAG TAG
GAA	i i i	2090 GGA GAT	l U	CTG	ם ה	2198 AAG AAA 	225 CTG	7 TAG
CAA	0	ACT	   [⊢ 	AAG	l H	AAG 	LLL	AAG 
2027 GAG	     	2081 ; ACA	!   [ <del>-</del>	2135 GCA	   4	2189 ' TTG	13 TTT 	2297 ; AAT
2027 AAA GAG	i K	2081 CAG ACA	i o	2135 ATG GCA	i E	2189 CCT TTG	2243 TTA TTT	GTG
CTG	- I	GCT	   4	AGA	   K	CAT	TGT	CAT
2018 TCT	ຸ່ທ	2072 TT GAT	ļΩ	2126 ; ATG	I I I	2180 ' AAA	14 TTT 	2288 TA AGC
ŢĄ	H	2 TYY	   <b>[</b> [4] 	$\mathcal{G}$	   K	2 TAT .	2234 ATA TYT 	TTA
TCC	i i i	CCA	i L	_	i i i	CTA	TGG 	ATA 
2009 AAT	     	1063 TCC	ι N	1117 GCT	<b>4</b>	2171 CAC	7.T.C	
AAA	<u> </u>	2063 CAT TCC	H	2117 ACA GCT	! ! <b>E</b> +!	2171 TAC CAC	2225 CTC TTC	TGI
CAC	H		H		ı	TTG	T.L.	CAG

### FIGURE 1G

2342 2351 2360 2369 2369 2369 2369 2369 2369 2369 2369	2378 TGA CAC GAT	2432 ATT TCT AAT 	AAA A 3'
2342 2351 2360  342 AAC AAA TGT GTA ACT TTT 2396	2369 A GTT ACT TG 	2423 aa agc 	2477 A AAA AAA AA
2342 2351  236 GAA AAC AAA TGT  2396 2405  3AA AAC CAG CAT TTT TTA  2450  TTA AAT TTA AGA ATA AAG	2360 ACT TTT CC 	241 AT TG 	2468 TTT AAA AT
2342 342 GGG GAA 2396 344 AAC CAG 2450 TTA AAT TTA	2351 AAA TGT GTA 	2405 TTT TTA TTC 	2459 2468 2477 AGA ATA AAG TTA TTT AAA ATA AAA AAA AAA
2333 CAA AAA GCT  GTG GGG GAA  AGC TTG TTA		2396 AAC CAG 	2450 AAT TTA
TCC TCA TCA	2333 TCC CAA AAA GCT	2387 . GGG	

### FIGURE 1H

56 TGC	110 CCT	164 CCC	218 GAA	   田 	272 AGG	   K	326 TTC	   任
GTC	TCT	CTT	CCT	   գ 	BCC	   4	AAT	 
TCA	TCT	TCC	AGA	   民	9CC	   4	CAG	ļa
47 GGG	101 ATT 	155 CCC	209 TTC	   फ्रि 	263 CCC	l Б	317 CTC	   1
T.T.T.	TCT	AAC 	JCC	i N	GTC		GGA	ן ט
ACC	CAC	AGA 	AAA	   X 	TGC	ט	CCG	! Д
38 GAG	92 TTT 	146 CCC	200 AGA	묘	254 TTC	। । দ্র	308 TCC	ເນີ
AAA	ACT	TTA 	CCT	і і Д	255	ן ני ני	TCC	່ິດ
TTA 	CTC	AAA 	TTT		GGT	 	TGT	ט
29 TGG	83 TGG	137 GAC	191 AAT		245 CAG	   0	299 TCC	ເນີ
TTG	CCC	AGA 	GTT	>	TCT	າ ເ ທ ເ	CCG	! Д
CTT	TAG 	AAA 	AAT		GGC	ן ני ט	GGG	ן ט
20 TCA	74 GTT 	128 AAA 	182 GCA		236 TCT		290 ACA	
TAA 	AGA 	AAG	TTG	i i i	GAA	! ! 臼 !	GTC	>
GTT	TGA 	AAG	GCC		AAA		ATG	   \ 
11 CTT	65 CCT	119 AGA 	173 GAG		227 GGA		281 ACT	
TCC	ATT 	TCA	ATG	i E	GCA	   4 	CAG	la
GTA	CTC	GTC	CAC	   	GAC	Ω	CCC	i A
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### FIGURE 2A

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380 CCG	I I Д	434 TCC	488 CTG	542 GGG	236 CCC	650 CAG	704 CTC
9	i b	GCC	CAG	1	GGT 	CAA	9    -
GCA	l K	CAG 	<b>GGC</b>	1 UU 1	T.L.	GAG	AGT
371 AAC		425 CCC 	479 ATG	533 AGA 	587 TGT	641 GGT 	695 AGG 
CAA	l Q	CGT  R	AAC	AAC	0 0 1 1	CTT	ATC
TGG	M	0 0 1 0	CCA	1	ATG 	TTC	GTG
362 TGT	טו	416 GTT 	470 AAA	524 GCC	578 TTC 	632 CTT 	686 TTT 
GCT	   <b>4</b>	AAA  K	TGA		TCC	TGC	7GC
TGC	ט ו	TTA  L	7.1	GGA	GTT	TTG	ATG
353 GCA	   4	407 CGA  R	461 CTT	100 100 100 100	569 ACA 	623 TTC 	677 AAA 
AGG	   民	GTA 	ტტ	GTT	CTC	TCT	CTA
AAC		TGT  C	ACA	T AGA	ACA 	TTG 	CCT
344 GAA	   田 	398 ATG 	452 GAG	E 506 TAG	560 GAG	614 TCA 	668 AAG 
AAA	i M	CCC	AAA	ACC .	CCA	ACA 	JCC
AGG	   K	AAC  N	CTT	L ACA	TTG 	TCC	GGT
335 CAA	i o	389 AAA 		K 497 TTA	551 GGC 	605 ATC	659 AAG 
CCT	i i i		CGC		0.0 1 - 1 -	AGA 	999
TCT	່ ຜ	GCT 	CAG	1 0 0 1 1 0 0 1	AAA 	CTA	AAA 

# FIGURE 2B

9 758 CTC AGC CTC CAA GGC 	803 812 CGC AGG TTC ATT AAA	857 866 TTC TTG GCT TGA TGT	911 920 TAA AAC AAA ATA GGG	965 ATG GAT GGA TGG ATG	1019 1028 AGA GAA AAC AAA ACC	1073 1082 GGA AGG TCG CAG CTT 
749 AGT GAG (	794 AGA GCT 	848 GTA GGT 	902 TGT ACG	956 GGA TGG	1010 . AAT TGC 	;4 TGA GGG 
740 GAG GCC 	9CG CTG	AGA AAA 	AGG GAA	ATG GAT 	1010 CAT GTA AAT 	1064 GGT GTC T( 
TTC	785 AAA	839 CTT	893 TGA	947 AGG 	1001 TTG	55 GTG 
731 TGC CCT	CAA GAG	TCT CTC	TTT TAG	ACA AGC	TGG TGT	10 TTA ATT 
0 1 1	776 CAG	830 GTT 	884 GAT 	938 GAG	992 AGA 	6 CAA 
722 TAC GCG	ACA TTT 	GCA CTG	TGC TTT	TCA AAG	ATA GAT	104 TGG AAA (
AAA 	767 GCC	821 AAA	875 GCT	929 TGG	983 TGA 	37 GAT 
713 CAA ACC 	TTT AAA 	GAA GGC	AGA CTG	CTT GGC	TAT GGA	10 AAA GCT 

### FIGURE 2C

1136 CAG CCC TGG	1190 GCC CAG GAA 	1244 CTC TCC GTG	1298 TCC ATG AGC	1352 ACA CTT AAA 	1406 TTT AAT AAA	
1127 CTG TGT GTC	1181 AAC TCC TTG 	1235 CAC TTC CTT	1289 TCA CGC ATA 	1343 GCC AGT ATT 	1397 GTA AAC AAA 	
1118 CTG TGC	1172 AGA AGC 	1226 TCT CTA	1280 CTC TTC	1334 CAT AAA 	1388 TAG AAG	AAA 3'
1109 ACA AGA GTT 	1163 TAA GCT CTT 	1217 . cgc atc	1271 ; CCC ATT	1325 CGG TAC GTC 	1379 CGT TTT TTT 	1433 . AAA AAA 
1 GGT ACA 	1 TTT TAA 	1217 GGT CCA CGC 	1271 TCT GCG CCC 	1 TCA CGG 	1 AAT CGT 	1433 AAA AAA AAA 
1100 TTG AGA AGC	1154 TG CAT TTA 	1208 CCT GAG ATG	1262 ACT CGT GCC 	1316 ACT TTC TGA 	1370 CTT TTT TGT 	1424 AAT GAG AAA 
1091 TGG GCA GCT 1	1145 AGC CAG CCA G	1199 TGC GTG ACC C	1253 GGA TAC TGG A	1307 TYY AAT TYC A	1361 TGA AGT ATT C	1415 GCT ACC AAT A

### FIGURE 2D

B 11 to be and the limit of the state of the

54 CCA	108 CCC	162 TGA	216 CAG	270 GGG	324 ACA 	378 CAA
GCT 	GGA	CTG	CC	GCA	1 1 1	AGC
AAG 	GAT 	CTA	16G	GAG	CCA	G G G
45 GTA 	99 GAG	153 ACG	207 CCC	261 AGT 	315 AGG	369 CCC
CAT 	CCT	CTG	CAG 	CC	CAG	CCG
0 0 1 1	GGG 	0 1 1	ପ୍ରଥ । ।	GAG	CTC	GAG
36 TGG	90 GGA	144 CAG	198 CCT	252 GTG	306 CCC	360 GAG
CTC	- T.G.C.	AGG	ACC	CCA	GAA 	TGT
TTC	T	CTG	AGG	GAG	CAG	GCA
27 AGT 	81 GGC	135 GCA	189 CGC	243 GCA	297 ACT	351 GAA
CAC	TGA 	GTG 	CCC	GAG	GCA	GGT
GCT	AAA 	AGC	CAG	GTG	CCT	CAG
18 TGT	72 TTC 	126 CCG	180 GAG	234 TCT	288 CGG	342 GGC
0 1 1	GAG	CTG	TGT	CC	CAC	GAC
TCA	7GG	GAC	GGT 	GAG	AGC	GCT
9 GGG TCA 	63 AGT 	117 CTG	171 GAA 	225 CCG	279 GGC 	333 CCC
CAA CCA	AGG	GCC 	AAA 	CTG	CTT	TGC
CAA 	CAA 	CAA 	0 0 0 0	CCT	CTG	G G G

### FIGURE 3A

A   A   A   A   A   A   A   A   A   A	 	486 GCT	540 GGC 	594 CAG	a	648 ATC	! ! H	702 CAG 
Harmonian   Harm	132 CAT 	CTG  A	GAG  E	TCC	ູ່ຜ	325	   <b>4</b>	AAG 
GGG         AAGG         CTT         TCA         TAG         ATT         ATT         ACA         AAG         AAT           441         ACG         AGG         CTT         TCA         TAG         ATT         ACA         AAG         AAG         AAT           ACC         ATG         CTG         TGC         CTG         TGC	CAC	CTG  L	GAG  E	GAG	口口	GGT	ן ני ני	CAT 
GGG         AAG         CTT         TCA         TAG         ATT         ATT         AAG           441	AAC 	477 GGA 	531 ACT 	585 GGC	ט	639 ACG	  -  -	693 GTG 
GGG         AAG         CTT         TCA         TAG         ATT         CTA         TTG         AAG           A41         ASG         CTT         TCA         TAG         ATT         CTA         TTG         AAG           ACC         ATG         CCA         CTG         CTG         CTG         TGG         AAG		CHC   G	9 9 9 9	8CG	A A	GTC	>	CGA  R
GGG         AAG         CTT         TCA         TAG         ATT         CTA         TTG           441	AAG	7GG  L	GAG E	CGG	K K	CGG	I I 民	AAC  N
GGG         AAG         CTT         TCA         TAG         ATT         CTA                   441                ACC         ATG         CCA         CTG         TGC         GTG         ACA           495         GCT         GTT         GCA         GTG         CAG         GAG         GAG           GGA         A         V         A         G         D              GGA         GTT         GCA         GTG         CAG         GAG         CC         CC         AC         AC         AC         AC         AC         AC         AC	ACA 	468 TGG 	522 TTT 	576 AAG	N N	630 CAG	l Q	684 GAG 
GGG         AAG         CTT         TCA         TAG         ATT         CTA                   441                ACC         ATG         CCA         CTG         TGC         GTG         ACA           495         GCT         GTT         GCA         GTG         CAG         GAG         GAG           GGA         A         V         A         G         D              GGA         GTT         GCA         GTG         CAG         GAG         CC         CC         AC         AC         AC         AC         AC         AC         AC	114 TTC 	TGC  W	GGT 	TAC	<b>X</b>	CAG	   0 	CTG 
GGG         AAG         CTT         TCA         TAG           441         AGG         CTT         TCA         TAG           ACC         ATG         CCA         CTG         TGC           495         AT         AT         AT         AT           GGA         GCT         GTT         GCA         GCG         CAG           GGA         GCT         GTT         GCA         GCG         CAG           GGA         GCT         GTT         GCA         GCG         CAG           GGA         GTT         GCA         GCG         CAG         CAG           AGA         TT         ATT         TT         TT           AGA         TT         TT         TT         TT           CO         TT         TT         TT         TT           CO         TT         TT         TT         TT           AGA         TT         TT         TT           AGA	CTA	ACA  C	GAC  D	AGG	ద	CCC	I I I	CTT  L
GGG       AAG       CTT       TCA         441       AGG       CTT       TCA         441       AGG       CCA       CTG         ACC       ATG       AGG       CCA       CTG         495       AC       AC       CTG       CTG         GGA       GCT       GTT       GCA       GGC       GGC         GGA       GCT       GTT       GCA       GGC       GGC       GGC         549       AG       TTC       ATT       TAC       TAC       TAC       TAC         R       E       F       T	ATT 	459 GTG 	513 GAG 	567 AAC	z	621 GTG		675 GTG 
GGG       AAG       CTT       TCA         441       AGG       CTT       TCA         441       AGG       CCA       CTG         ACC       ATG       AGG       CCA       CTG         495       AC       AC       CTG       CTG         GGA       GCT       GTT       GCA       GGC       GGC         GGA       GCT       GTT       GCA       GGC       GGC       GGC         549       AG       TTC       ATT       TAC       TAC       TAC       TAC         R       E       F       T	105 TAG	TGC	CAG  Q	CTA	ı	ATT	   H	GAG 
GGGG       AAG       AGG         441       ACC         ACC       ATG       AGG         495       GCT       GTT         GGA       GCT       GTT         549       AC       TTC         AGA       GAG       TTC         AGA       GAG       TTC         AGA       ACC       TTC         C       T       Y         603       TC       TC         C       T       Y         657       AAC       AAG         AAC       TCC       AAG	TCA	CTG	) )   b	TAC	<b>X</b>	TTC	і І [ті І	CCT 
GGG AAG  441  ACC ATG  ACC ATG  A95  GGA GCT  GAB  GAB  AGA GAG  CON  TGC ACC  CON  TGC ACC  CON  TGC ACC  TGC	CTT	450 CCA 	504 GCA 	558 ATT	Н	612 ACC		666 GAG 
GGG AAG 441 ACC ATG M R 495 GGA GCT G A 549 AGA GAG TGC ACC TGC AC	396 AGG 	AGG 	GTT  V	TTC	<u> </u>	TAC	   }	AAG  K
	AAG		GCT  A	GAG	i 田	ACC	   [-	TCC
			495 GGA 	549 AGA	ద	603 TGC	ט ו	657 AAC
AGG AGG AGG ATG ATG AGG AAGG AAGG AAGG	387 A GGA	GCA AGG	ATG  M	CCA	<u>а</u>			GTC 
GCA GCA GCA GCA TCG TCG O	GCA	GCA 	GCC A	TCG	ຶ່ນ	GAC		H C - C

# FIGURE 3B

ACG	   [+ 	810 CTG 	864 CTC  L	918 GAG  E	972 AAG  K	.026 GAG 
756 GAG		CTG  L		CTG  L		TCA TCA S
ATC		AAG  K	ATG  M	CAG	AAG  K	CAA 
7 CAG	i o	801 GTG 	855 TAC 	909 TCC 	963 AGC 	1017 AAC  N
747 CGG	   K	GAG  E	CTC	CIC	GCC 	CAC
AAG	   <b>   </b>	AGC S	CAG 2 Q	GAG  E	CTG 	900   A
CAG	l Q	792 GTG 	846 ACG 	900 TTG 	954 CAG 	.008 .CTG
738 AAG	   K	ATT  I	GTC 	GCG  A	CTG  L	ACA 
CTC	ijij	0 0 0 1	CGG  R	AAC  N	ATG 	900 - 1 - 4
CTG	IJ	783 GGC 	837 TCG 	891 GAC 	945 GAC 	999 CTG 
729 GAG	   円 	GAC  D	AAC  N	CGG  R	GCC 	CAC 
AAT		GTG 	ATG 	AAG  K	ACA 	CAG O
) AAC	i Z	774 GAG 	828 AAC  N	882 CGC 	936 CAG 	990 TAC 
72( CTC	ijij	GTG 	GGC  R	ATC  I	AAC  N	AAG  K
CTG	디디	CTG 	AGC 	ATC  I	CTG  L	CAC  H
GAG	   円 	765 CAG 	819 GAG 	873 GAG 	927 ATC 	981 GAG 
711 CTA (	1 1 1	CAG 	AAG  K	CAC 	AGG 	CTG  L
GAG	   日 	CTG 	CGC 7 - 1 - R	CTG  L	AAC  N	GAC 

# FIGURE 3C

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	>	1134 ? AAC		1188 AAG	   K 	1242 PTCC	ຸ່ ຜ	1296 GGC	! !	1350 CTC ATG	<b>I</b>
CCC	Б Б	1134 TAC AAC		1188 CTG AAG	   1	13 TCT '	i w	1296 GAT GGC	_ _ _	CTC	1
1080 : AGG C	4	ACC	   [-	AAC		CCA	Ъ	GAG	   日 	G G G	
CC	4	.125 CCC	I Ы	1179 GAC CAG	i o	1233 CTC	L	1287 GCC CTG	Ţ	1341 : AAC	3
'1 TCG	ທູ່	1 CCA	I I Ст I	1 GAC	<u> </u>	AGC	ເດ	GCC	   4 	ACC A	Ħ
1071 CCC TCG	<u>Г</u>	CAA	i Q	AGT	ι N	ACC		CAG		AAC	
GTG		1116 TAC	<u> </u>	170 CAG	l Q	224 CTC	1 7	1278 CTG	L	332 GAG 	리
2 AGG	~	1 GTC	>	1170 ATC CAG	   H	1224 ACT CTC	E	1. TGC	טו	1332 CCG GAG	ц
1062 CAG AGG	ļ o	CGG	   K	GAG	I I 田 I	CCC		GAC	i A	AAG 	4
TGC	 ပ	.107 CCC	! ப	1161 ACC AAC		.215 ATG	   X	1269 TGG AGA	     	1323 3 GTG	>
3 CAC	H	1107 CCG CCC	! Д	ACC	   [+	1215 ACT ATG	   E	$^{1}$	 M	CTG	コ
1053 GAG C	   国 	GCC		TCT		CCC		CCA		TAC	н
GAG	   E	.098 GCT	A	152 ATC	   H	206 CTG	בו	.260 GGC	ן ט	1314 ; ATC 	<b>-</b>
144 ; CTT	L L	CCC	! Д	1152 CAG ATC	l Q	1206 CCT CTG	ᆸᅀ	1260 TCG GGC	ຸ່ໝ	13 C TCC A'	Ω
1044 3 CAG C	l o		і Ц	AAC			<u> </u> 4		<u> </u> A	AGC	Ω
GCG	- 4 4	1089 CCA	I Д	71 74	   H	1197 CCA	- Д	1251 AAG		1305 ACC	
5 ATC	  -  -	1 CAG	l Q	1 ATC	ļн		l J	1 GAC	<u> </u>	1 GAC 	コ
$\sim$	   H 	CCC		CGC		GTG	>		- E	7)	ぱ

# FIGURE 3D

)4 AGA  R	1458 CAA GGG  Q G	1512 ; CTG 	1566 . CGC 	1620 TAT 	1674 CAC 
1404 rc cag ag.  I Q R	CAA 	TGG 	GGC  G	TAT 7	TGG
ATC  I	AAG  K	TAC 	TCC  s	GAG  E	ACA 
95 GTC 	1449 TAC 	1503 : ATT 	57 GG 	L611 AGC 	1665 TTT 
1395 3 ACC G	14 G ACG T 	15 G AAC P	15 3 GAC T  D	16 I GAG A	T T S
TGG 	GAG  E	GAG  E	GAG  E	D G	GAC  D
36 GGC 	1440 TGG	94 7G 	1548 ATG	.602 GAA 	.656 .GGT 
1386 3 GGG G	14 G AAC T  N	14 3 GGC C	15 3 ACC A 	16; CTG G	1 GCG  A
CCC	AGG  R	CTG  L	GTG 	CGC 	AAT  N
,7 GAC 	1431 TTC	.485 TGG	1539 CTG	.593 TTC 	.647 .GGC 
1377 CAC GA	TTC 	TAC '	CTC 	15 AGT 7	16 CAT ( 
AGA  R	AAC  N	GAA  E	AAA  K	GCC 	TAC 
CAG	1422 GTT 	1476 rr gar ggc g2 	1530 TAC 	.584 TAC 	1638 CGC 
1368 c GAC CA( D	TCT 	GAT  D	AAC AAC N	GAA '	GGG 1
HGC 1 - 1	6   6	A1 	9 1 0 1 1	GCA  A	CTG 
7GG 	1413 GAT	1467 AAC 	1521 CAA	1575 TTT 	1629 CGG
1359 GTG TC 	CTG	GGG 	AAC  N	GTC 	CTG
CAG	CGC 	TTT  F	ACG	AAA  K	AAG  K

# FIGURE 3E

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728 AAC	Z	1782 AAC 	1836 GAC GGA	l U	1890 ATG	 	1944 CCT	 	1998 GAA
172 GGA A	ן ט	TCC			1 GTG	>	1 TGA	 	1 AAA 
	i E	CAC  H	CAG	l V	GTG		TCC	 	CAC
719 TAC	>	1773 TGT GCC 	1827 TAC	!   } <del> </del>	1881 AAA	×	1935 CCC	1	1989 . CAG
171 GTC 1	>	TGT 	1, CGC '	i i k	1 AAG	   14 	TCC	   	1 CCA
GAT	<u> </u>	900   4	AGC		CIC	1	AGC	 	TGG 
710 CAT	   H	-764 AAC 	1818 . CGG	   K	1872 TCA	្ត	1926 NC TAA GCC AC	   	1980 . CGC
171 GAT C	<u> </u> A	1764 TAT AAC 	1818 TAC CGG	   > <del> </del>	1 TAC	; ; ;	1 TAA	   * 	1 TCA 
AGA	K	7GG	CAT		TCT	ຸ່ນ	CAC	H	TGG
701 GAC	ļ A	1755 TGG 	1809 GGC	ָ ט י	1863 . GGC	ן ט	.917 TTC	। । দ্র	.971 CCC
1701 SC CTG GAC	ן ן	1 GGC 	1 GGG	ן ט	1 GGA	ן ט	1 ACC	Į Į	1 CCA 
Æ	i	GGA  G	CGC	   K	CGA	i K	AAC	Z	AGC
392 ACC	H	1746 3 AAG 	1800 TAC	: >	1854 TTC	   [± <sub>1</sub>	1908 CCC	   ည	1962 AGG
1692 TTC ACC	   [L <sub>1</sub>	CAG CAG	TGG	I I I	1 GAG	   円 	1 AAC	Z	1 GCC .
CAG	ļQ	TAC 	$\mathbf{O}$	l	GCT	   <b>4</b>	-	<u> </u>	ATT 
1683 GGC AAG	   \( \( \)	1737 GCC CAC  A H	1791 AAC GGG	ן ניט		_ M	1899 CGA	   K	1953 GCC
16 GGC	ן ט	17 GCC C 	1 AAC	z	1 TAC	>	1 ATC	ļн	GTG
	z	TGT  C	CTC		GTC	>	ATG	- X	CTC

FIGURE 3F

2106 GTT TTC TGT 	2160 ACA GGA CAG	2214 AAA ACA CAA 	2268 GCA CGT ATG	
2097 TAC GGT	2151 TCC AGG	2205 ACA ATA 	2259 TC CCT TGT 	
2088 CTG AAT	2142 CCT CAT	2196 TAA GTC 	2250 ATG AGC	
2079 ATG ATG GAZ	2133 CAG ACA GCC	2187 TAA ATA AA1 	2241 TAC ATG	- E)
70 2AG CGG	.24 .ca cac 	.78 .TT CTT		ტ ე
CTG	•	CTC		2286 CAT ATA TAT
2061 TTT CCG AAG 1	2115 CCC TCC TAC 1	2169 GAC TAC AGA C	2223 CTG CAA AGT 7	2277 TGT ATA GCA (
	2061 2097 2088 2097 CCG AAG TCA CTG CAG CGG ATG ATG GAA CTG AAT CGA TAC GGT GTT TTC	2061       2070       2079       2088       2097       2         CCG AAG TCA CTG CAG CGG ATG ATG ATG GAA CTG AAT CGA TAC GGT GTT TTC       CTT TCC TAC CAG ACA GCC CCT CAT GTC TCC AGG ACA GGA       CTT TCC TAC TCC TAC CAG ACA GCC CCT CAT GTC TCC AGG ACA GGA       CTT TCC TAC TCC TAC TCC TAC TCC TAC TCC AGG ACA GGA       CTT TCC TAC TCC TAC TCC TCC TAC TCC TAC TCC TC	2061 2070 2079 CCG AAG CTG AAT CGA TAC GGT GTT TTC CT TCA CAG CAG ACA CCC CCT CAT GTC ACA GGA ACA GGA ACA GCA CTG AAT CGA TAC GGT GTT TTC TAC TT CCT TCA CAG ACA GCC CCT CAT GTC TCC AGG ACA GGA ACA ACA ACA ACA ACA ACA A	2061 CCG AAG TCA CTG CAG CGG ATG ATG GAA CTG AAT CGA TAC GGT GTT TTC CT TCA CAG ACA CAG ACA CCC CCT CAT GTC AGG ACA GGA ACA CAC AGG ACA CAG ACA CCC CCT CAT GTC TCC AGG ACA GGA ACA ACA ATA ATA ATA TAC ATG TCA AGG ACA GTC TCT TCA ATA ATA TAC ATG TGT ATG AGG CTC CCT TGT GCA ACA TGT ACA TGT GCT TGT GCA AGG ACA GTC TCT TCT TAA ATA TAC ATG TGT ATG AGG CTC CCT TGT GCA CGT CTT TCT TAA ATA TAC ATG TGT ATG AGG CTC CCT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CCT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CCT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCA CGT CTT TGT ACA ATG TGT ATG AGG CTC CTT TGT GCT TGT ACA ATG TGT ATG AGG CTC CTT TGT ATG AGG CTC CTT TGT ACA ATG TGT ACA ATG TGT ATG AGG CTC CTT TGT ATG AGG CTC CTT TGT ACA ATG TGT ACA ATG TGT ATG AGG CTC CTT TGT ATG AGG CTC CTT TGT ACA ATG TGT ACA ATG TGT ATG AGG CTC CTT TGT ACA ATG TGT ACA ATG ATG ATG ATG ATG ATG ATG ATG ATG AT

FIGURE 3G

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### NORTHERN ANALYSIS OF SEQ ID NO:3

Category	cDNAs	Libraries	Abund	%Abund
Cardiovascular	270162	15/72	19	0.0070
Connective	147886	15/54	26	0.0176
Digestive	514430	33/151	54	0.0105
Embryonic	107325	2/23	2	0.0019
Endocrine	233587	7/63	8	0.0034
Exocrine	255105	17/64	28	0.0110
Female Reprod	445078	25/113	48	0.0108
Male Reprod	453150	32/118	44	0.0097
Germ Cells	46185	1/5	9	0.0195
Hemic/Immune	701709	8/166	8	0.0011
Liver	110945	2/34	2	0.0018
Musculoskeletal	162794	10/50	16	0.0098
Nervous	973795	25/221	45	0.0046
Pancreas	111757	3/25	19	0.0170
Respiratory	407942	14/95	21	0.0051
Sense Organs	25346	1/10	1	0.0039
Skin	72110	1/15	1	0.0014
Stomatognathic	14025	0/11	0	0.0000
Unclass./Mixed	150146	6/19	31	0.0206
Urinary Tract	287931	12/66	22	0.0076
Totals	5491408	229/1375	404	0.0001

Legend: The first column presents the category (cell tissue or organ), the second column, the number of cDNAs sequenced for that category; the third column, description of the tissue; the fourth column, absolute abundance of the transcript; and the fifth column, percent abundance of the transcript (abundance divided by the number of clones)

### FIGURE 4

### Differential Expression of SEQ ID NO:3 in Pancreas

### Found in:

<u>Library</u>	<u>cDNAs</u>	<u>Description</u>	<u>Abund</u>	%Abund
PANCTUP01	1205	pancreatic tumor, TIGR	1	0.0830
PANCTUP032	2651	pancreas tumor, adenoCA, 3' CGAP	17	0.0751
PANCTUT021	1545	pancreatic tumor, anaplastic CA, 45F	1	0.0087

### Not found in:

Library cDNAs	Descrip	<u>tion</u>
PANCDIR02 2023	pancreas, t	ype I diabetes, 43F, RP
PANCDIT01 1741	pancreas, t	ype I diabetes, 15M
PANCNOT23 3919	pancreas, t	ype I diabetes, 43F
PANCDIT03 688	pancreas, t	ype II diabetes, 57M
PANCNOE02 2834	pancreas, 8	M, 5RP
PANCNOP03 589	pancreas, 3	4F, WN
PANCNOPO5 373	pancreas, C	GAP
PANCNOT01 4452	pancreas, 2	9м
PANCNOT0411135	pancreas, 5	М
PANCNOT05 6788	pancreas, 2	М
PANCNOT07 6991	pancreas, f	etal, 23wM
PANCNOT08 3901	pancreas, p	ancreatitis, mw/adenoCA, 65F, m/PANCTUT01
PANCNOT15 3638	pancreas, i	slet cell hyperplasia, 15M
PANCNOT16 2994	pancreas, a	w/Patau's, fetal, 20wM
PANCNOT17 4034	pancreas, m	w/neuroendocrine CA, aw/node, liver mets, 65F
PANCNOT19 3772	pancreas, 8	М
PANCNOT21 3841	pancreas, 8	М
PANCNOT22 1356	pancreas, 1	7 <b>F</b>

Legend: The first range shows the expression of SEQ ID NO:3 in pancreas. SEQ ID NO:3 is differentially expressed in pancreatic tumors and diagnostic of that condition. The second range shows that the sequence is not expressed in type I and II diabetes, in pancreatitis, or in metastatic liver cancer.

Where present, the first column presents the library name, the second column, the number of cDNAs sequenced for that library; the third column, description of the tissue; the fourth column, absolute abundance of the transcript; and the fifth column, percent abundance of the transcript (abundance divided by the number of clones)

Note: Normalized and subtracted tissues, which have high abundance transcripts removed before sequencing, were not considered in this analysis.

### FIGURE 5